



**Written Testimony of Jason Hartke
President, The Alliance to Save Energy**

**U.S. House of Representatives
Committee on Ways and Means
“The Economic and Health Consequences of Climate Change”**

May 15, 2019

Thank you for the opportunity to submit a written statement regarding the hearing on “The Economic and Health Consequences of Climate Change.” We are pleased that the Committee continues to explore the impacts of climate change and best policies to address it moving forward.

The Alliance to Save Energy is a non-profit, bipartisan coalition of business, government, environmental, and consumer-interest leaders that advocates for enhanced U.S. energy productivity to achieve economic growth; a cleaner environment; and greater energy security, affordability, and reliability. The Alliance enjoys the participation of nearly 130 businesses and organizations that collectively represent at least \$615 billion in market capital. The Alliance was founded in 1977 by Sens. Charles Percy (R-Ill.) and Hubert Humphrey (D-Minn.), and today has 14 members of Congress serving on an Honorary Board of Advisers.

Energy efficiency is the single most effective tool we have for addressing climate change. It represents an extraordinary opportunity to reduce carbon emissions while simultaneously boosting economic growth and job creation, improving public health, reducing energy costs, strengthening U.S. innovation leadership, and advancing global competitiveness and energy security. Without the gains in energy efficiency made since 1973, the U.S. economy would today require about two-thirds more energy than we currently consume, with significantly higher emissions and related public health impacts. Consumers and businesses would be spending \$800 billion more per year on energy, and communities across the country would have fewer good-paying jobs.

Despite the gains we have made, evidence indicates clearly that we must do more. According to the International Energy Agency (IEA), rising [global demand drove a 2.3 percent increase](#) in energy consumption last year, resulting in a 1.7 percent increase in carbon emissions globally and a 3.4 percent increase in the United States. This increase was partly due to the global economy and partly due to varying temperatures. The demand for all sources of generation increased, yet energy efficiency gains – which the IEA has said need to account for more than [40 percent of needed emissions reductions](#) to address climate change – saw only modest improvement. The 2019 [Sustainable Energy in America Factbook](#) also included potentially troubling indicators about efficiency, showing that U.S. energy productivity – a measure of economic output per unit of energy consumed – ticked down by 0.4 percent as energy consumption outpaced GDP growth.

Given the urgent need for immediate solutions, Congress has a bipartisan opportunity to address rising carbon emissions and associated health and economic consequences through policies for advancing efficiency, including tax policy. Of particular concern for the Committee, the U.S. tax code currently contains no direct incentives for energy efficiency, one of the most impactful tools we have to combat climate change while

achieving economic growth and improving public health. We urge you to rectify this omission by strengthening and extending the expired efficiency tax incentives (as outlined in our proposal submitted May 1, 2019 and attached here).

Economic Impact of Energy Efficiency

Energy efficiency presents an enormous opportunity to grow our workforce while combating climate change. According to the [2019 U.S. Energy and Employment Report](#) (USEER), energy efficiency jobs showed the highest rate of growth across the entire energy sector, adding 76,000 new positions in 2018 alone. The energy efficiency sector, defined by the report as including those who design, install, and manufacture energy efficiency products and services, accounts for one-third of all energy sector jobs and over two-thirds of all clean energy jobs, employing over 2.3 million people in 2018 alone. With a projected growth rate of 7.8 percent – the highest projected growth rate across the energy economy – the energy efficiency sector shows no signs of slowing down. In fact, energy efficiency jobs outnumber electric power generation jobs in 48 states, and in 15 states, efficiency jobs exceed fuel, energy power generation, transmission, distribution, and storage jobs combined. Many of these jobs, almost 1.3 million, are in construction, which is also projected to experience a significant 8.8 percent growth rate.

To further illustrate the impact of energy efficiency on U.S. employment, members of the Ways and Means Committee represent over 227,000 Americans employed in whole or in part in the energy efficiency sector (see Table 1)¹:

Table 1. Energy Efficiency Sector Jobs in Districts Represented by Committee Members

Member	District	Jobs	Member	District	Jobs
Richard Neal (Chairman)	MA-01	7,517	Kevin Brady (Ranking Member)	TX-08	4,183
John Lewis	GA-05	7,915	Devin Nunes	CA-22	2,926
Lloyd Doggett	TX-35	843	Vern Buchanan	FL-16	4,787
Mike Thompson	CA-05	4,218	Adrian Smith	NE-03	4,133
John Larson	CT-01	7,930	Kenny Marchant	TX-24	7,998
Earl Blumenauer	OR-03	9,258	Tom Reed	NY-23	4,167
Ron Kind	WI-03	7,884	Mike Kelly	PA-16	2,137
Bill Pascrell	NJ-09	2,938	George Holding	NC-02	9,446
Danny Davis	IL-07	11,047	Jason Smith	MO-08	3,475
Linda Sanchez	CA-38	4,022	Tom Rice	SC-07	4,012
Brian Higgins	NY-26	4,926	David Schweikert	AZ-06	12,041
Terri Sewell	AL-07	2,524	Jackie Walorski	IN-02	6,944
Suzan DelBene	WA-01	10,662	Darin LaHood	IL-18	2,470
Judy Chu	CA-27	9,457	Brad Wenstrup	OH-02	2,986
Gwen Moore	WI-04	7,352	Jodey Arrington	TX-19	3,141
Dan Kildee	MI-05	3,912	Drew Ferguson	GA-03	4,064
Brendan Boyle	PA-02	3,226	Ron Estes	KS-04	3,826

¹ Environmental Entrepreneurs (E2) and E4TheFuture, “Energy Efficiency Jobs in America.” September 2018. <https://www.e2.org/reports/eejobsamerica2018/>. Last accessed May 15, 2019.

Don Beyer	VA-08	9,948			
Dwight Evans	PA-03	4,424			
Brad Schneider	IL-10	4,287			
Tom Suozzi	NY-03	6,837			
Jimmy Panetta	CA-20	4,305			
Stephanie Murphy	FL-07	3,457			
Jimmy Gomez	CA-34	5,277			
Steven Horsford	NV-04	712			
Total Energy Efficiency Sector Jobs: <u>227,611</u>					

In addition to creating jobs, energy efficiency yields a more productive and competitive U.S. economy, with increased discretionary income from reduced energy costs. Policies such as minimum energy efficiency standards for common household appliances are estimated to save the average U.S. household [\\$500 annually](#), amounting to national average savings of 16 percent of a homeowner's energy bill and annual [carbon reduction equivalent](#) of removing 63 million vehicles from the roads. Similarly, the well-known ENERGY STAR program saves businesses and consumers more than \$30 billion annually and, since its formation in 1992, has the delivered carbon reduction equivalent of taking more than 600 million cars off the road for a year.

Reducing energy costs is particularly important for low-income households, which spend a disproportionately high share of their income on utility bills. The average U.S. household [spends almost \\$2,000](#) per year on energy. [According to Oak Ridge National Laboratory](#), the cost of energy represents an average 16.3 percent of the income of households making less than 200 percent of the poverty level versus just 3.5 percent of the income of households making more than 200 percent of the poverty level. Efficiency policies – including tax incentives – are cost-effective, high-impact tools for reducing household energy burden.

Health Impacts of Energy Efficiency

Energy efficiency also presents a significant opportunity to promote public health through emissions reductions and improving indoor and outdoor air quality.

In March 2019, the University of Wisconsin-Madison published a [study](#) in the Journal of Environmental Science & Technology calculating the air quality improvements and resulting health benefits achievable by reducing electricity generation demand through energy efficiency measures. This study modeled the effects of a 12 percent decrease in electricity generation during summertime – a figure based on a 2018 study from the American Council for an Energy-Efficient Economy (ACEEE), which found the number to represent a moderate amount of savings that could be achieved through cost-effective energy efficiency measures. The study found that these efficiency measures would result in a more than 13 percent reduction in nitrogen oxide emissions and more than 11 percent reductions in carbon dioxide, as well as decreases in ozone and particulate matter.

Exposure to high levels of ozone and particulate matter are markedly linked to cases of aggravated asthma in children. Decreased exposure to these pollutants can reduce premature mortality as well as multiple adverse health effects including asthma and cardiovascular disease. In fact, this study found these modest reductions in electricity generation due to energy efficiency measures would result in the avoidance of 475 premature deaths each year and nearly 128,000 cases of exacerbated child asthma would also be avoided each year. The combined annual estimated value of these health savings would amount to approximately \$4.4 billion. While there are limits to this study, it shows that in all states, energy efficiency reduces emissions, and reductions in emissions can potentially help reduce health disparities and achieve a healthier environment for all communities.

Data from federal programs demonstrates the significant health impacts of improved efficiency. According to the EPA, ENERGY STAR [helped Americans save](#) 370 billion kWh of electricity in 2017 alone, with associated emission reductions of 290 million metric tons of greenhouse gases, 190,000 short tons of sulfur dioxide, 180,000 short tons of nitrogen oxides, and 21,000 short tons of fine particulate matter.

Similarly under the [Weatherization Assistance Program](#) (WAP) – which funds federal grants to states to provide weatherize low-income houses – DOE has found that following weatherization, families and individuals have taken fewer sick days, lowered out-of-pocket medical expenses by an average of \$514, and saved an average of \$283 per year on energy costs.

A [2016 report](#) disseminated by DOE addressing the impact of home performance and energy efficiency upgrades on health found that reductions in indoor air quality contaminants resulted in better general health and fewer instances of asthma symptoms, hypertension, and respiratory issues. As the report notes, effects on health are not guaranteed, but “the evidence presented clearly demonstrates that population health benefits are real and valuable.” Incentivizing energy efficiency in new and existing homes is critical to addressing the effects of climate change on public health.

The Role of Tax Policy in Promoting Energy Efficiency

The tax code can play a critical role in encouraging energy efficiency in new and existing homes – specifically through the Section 25C tax credit for homeowner efficiency improvements such as insulation, HVAC, window and doors, and the 45L credit for new home construction. These incentives, as well as Section 179D for commercial building efficiency improvements, expired on December 31, 2017. They are particularly important because homes and buildings account for about 40 percent of our energy use and are likely to be in use for 50 to 100 years. By failing to provide incentives for energy efficiency improvements, we are locking in decades of energy waste and higher emissions. Strengthening and extending these incentives presents a bipartisan, forward-thinking opportunity, providing stability and certainty for the future while reducing harmful emissions. We urge the Committee to consider the improvements outlined in our proposal (attached below), updating efficiency requirements to ensure the latest efficiency technologies and market capabilities are supported, as well as increasing the financial values to make the incentives more attractive to consumers and businesses.

There is strong evidence that longer-term, higher-value incentives are effective in pushing markets toward efficiency, with enormous impacts on carbon reduction and consumer savings. For example, the Department of Energy [last year analyzed](#) energy savings from five product categories under the 25C homeowner efficiency incentive (gas furnaces, electric heat pumps, central air conditioners, gas water heaters, and electric water heaters.) The study concluded that if the incentives for each product were raised to \$500 and extended for 10 years, sales of high-efficiency products would increase by 278 percent, saving 320 TWh of electricity and 2.1 quadrillion BTUs of natural gas, yielding \$52 billion in consumer energy bill savings.

While we recognize that this hearing is focused on the impacts of climate change, we will not meet climate goals without significantly improving efficiency in the built environment. High-impact tax policy encouraging energy efficiency – specifically through the update and modernization of expired efficiency incentives – is one of the most effective tools we have to combat climate change.

The expired temporary efficiency incentives are:

Section 25C Homeowner Efficiency Credit – This provision provides a 10 percent tax credit for homeowner energy efficiency improvements, including envelope improvements and heating and cooling upgrades. The incentive has a lifetime cap of \$500, with additional caps for individual product categories, such as \$300 for air conditioning equipment.

Section 179D Commercial Building Tax Deduction – Section 179D provides a tax deduction of up to \$1.80 per square foot to help offset some of the high costs of energy efficient components and systems for commercial and large multifamily buildings. The 179D deduction has leveraged billions of dollars in private capital, resulting in the energy-efficient construction and renovation of thousands of buildings. A [recent analysis by Regional Economic Models, Inc.](#) estimated that updating and extending the tax deduction could create nearly 77,000 new design and construction jobs annually along with nearly \$7.4 billion in annual GDP.

Section 45L Energy Efficient Home Credit – The 45L incentive provides a credit of \$2,000 for builders of homes that use 50% less energy for space heating and cooling and a \$1,000 tax credit to the builder of a new manufactured home achieving 30% energy savings for heating and cooling or a manufactured home meeting the ENERGY STAR requirements.

Conclusion

There is tremendous untapped potential to expand upon the energy efficiency gains the U.S. has made in recent decades. By doing so, we can mitigate climate change while creating jobs, energy cost savings, and myriad public health benefits.

But we will not meet these goals – particularly at a pace commensurate with the urgency of climate change – without meaningful policy, including in the tax code. Energy efficiency tax incentives are among the most important policy levers we have, yet we are ignoring efficiency in the tax code. In doing so, we are effectively locking in decades of wasted energy and unnecessary carbon emissions in our nation’s homes and buildings.

We look forward to continuing to work with the Committee to advance bipartisan efficiency policy and appreciate the opportunity to submit this statement.

Attachment: May 1, 2019, Letter and Proposal

May 1, 2019

The Honorable Nancy Pelosi
Speaker of the U.S. House
Washington, DC 20515

The Honorable Kevin McCarthy
U.S. House Republican Leader
Washington, DC 20515

The Honorable Mitch McConnell
U.S. Senate Majority Leader
Washington, DC 20510

The Honorable Chuck Schumer
U.S. Senate Democratic Leader
Washington, DC 20510

The Honorable Richard Neal
Chairman
U.S. House Committee on Ways and Means
Washington, DC 20515

The Honorable Kevin Brady
Ranking Republican Member
U.S. House Committee on Ways and Means
Washington, DC 20515

The Honorable Chuck Grassley
Chairman
U.S. Senate Finance Committee
Washington, DC 20510

The Honorable Ron Wyden
Ranking Democratic Member
U.S. Senate Finance Committee
Washington, DC 20510

Dear Speaker Pelosi, Republican Leader McCarthy, Majority Leader McConnell, Democratic Leader Schumer, Chairman Neal, Ranking Member Brady, Chairman Grassley and Ranking Member Wyden:

As companies and organizations representing millions of workers in energy efficiency, construction, manufacturing and other fields, we write to urge you to modernize and extend key tax incentives for energy efficiency that expired more than a year ago.

The expiration of three efficiency incentives on Dec. 31, 2017, left the U.S. tax code without any direct incentives for energy efficiency. This is a glaring and urgent omission in both climate policy and economic policy, and we urge you to address it as quickly as possible. We view this as a bipartisan opportunity that would accomplish a number of shared goals: Efficiency incentives have the potential to significantly reduce energy costs for consumers across the country, drive down carbon emissions, and stimulate job creation and economic activity.

Already, energy efficiency is by far the largest sector in the clean energy economy, supporting more than 2.3 million jobs across the country, the vast majority of which are in construction and manufacturing. Additionally, energy efficiency is widely viewed as the single most effective solution for addressing climate change.

Homes and buildings under construction or renovation today will likely be in use for 50 to 100 years, while energy intensive equipment such as air conditioners and furnaces will likely be used for a decade or more. As a result, by not incentivizing efficiency now in a sector that accounts for 40 percent of U.S. energy consumption, we are locking in unnecessary energy waste and carbon emissions for decades to come while also weakening U.S. economic productivity and competitiveness.

Specifically, we ask that you incorporate the attached updates to the 25C incentive for homeowner efficiency improvements and 45L incentive for new home construction, and pass a forward-looking, multi-year extension that would provide the certainty needed for consumers, manufacturers, contractors and others to fully capitalize on the incentives. The expired incentives, as written, are outdated and no longer reflect the current

market for high-efficiency equipment and building technologies. In some cases, such as for water heaters, the efficiency metrics referenced are obsolete.

These updates to the incentives, and the call for a multi-year extension, are endorsed by the undersigned companies and organizations. We also support a modernized, forward-looking, multi-year extension of the 179D incentive for commercial building efficiency improvements.

We look forward to working with you on this important issue. If you have any questions, please contact Ben Evans at the Alliance to Save Energy at bevans@ase.org.

Sincerely,

A.O. Smith
Air-Conditioning, Heating & Refrigeration Institute
Alliance to Save Energy
American Council for an Energy-Efficient Economy (ACEEE)
American Institute of Architects
Andersen Windows & Doors
ASHRAE
Association of Energy Engineers
Carrier Corporation
Citizens for Responsible Energy Solutions (CRES)
Covestro LLC
Daikin US Corporation
Danfoss
DFW International Airport
DuPont
E4TheFuture
Energy Systems Group
Goodman Manufacturing
Hannon Armstrong
Hearth, Patio & Barbeque Association
Home Performance Coalition
Illuminating Engineering Society
Ingersoll Rand
Johnson Controls
Knauf Insulation
National Association of State Energy Officials
National Insulation Association
Natural Resources Defense Council
North American Insulation Manufacturers Association
Polyisocyanurate Insulation Manufacturers Association
Sheet Metal and Air Conditioning Contractors National Association
Signify
U.S. Green Building Council

cc: Members of the Senate Finance and House Ways and Means Committees

Energy Efficiency Tax Incentives Proposed Updates – Spring 2019

For questions about this proposal please contact Ben Evans at the Alliance to Save Energy at bevans@ase.org.

45L Energy Efficient Home Credit

- **Current:**
 - Maximum Credit: \$2,000 for new homes and manufactured homes achieving higher target; \$1,000 for manufactured homes achieving lower target.
 - Requirements: Higher target: Energy consumption 50 percent below home built to IECC 2006. Lower target: Manufactured homes achieving 30 percent energy savings for heating and cooling or meeting ENERGY STAR requirements.
- **Proposed:**
 - **Maximum credit: \$2,500 for new homes that meet the building envelope requirements of the 2015 IECC and are certified in compliance with 2015 IECC Section R406 to achieve the Energy Rating Index (ERI) outlined in Table R406.4 (Which vary by climate region from ERI 51 to ERI 55). Note: To prevent incentive double-dipping, the ERI score must be achieved through efficiency measures only, exclusive of any renewable energy credits. Alternative credit: \$1,000 for homes and manufactured homes that meet ENERGY STAR requirements.**

25C Nonbusiness Energy Property Credit for Existing Homes

- **Current:**
 - Maximum Credit: 10 percent up to maximum of \$500 (lifetime cap), with individual product category caps in some cases.
- **Proposed:**
 - **Maximum Credit: 15 percent up to maximum of \$1,200 (lifetime cap, reset upon enactment), with individual product category caps eliminated or raised in many cases. This allows a homeowner to do multiple projects. For example, homeowner could take \$600 credit for new HVAC AND take \$600 credit for envelope improvements such as insulation. Applicable expenses include labor costs. Where applicable, qualified equipment must be installed according to ACCA QI standards in effect at the time of enactment. If any referenced standard in this package is terminated, the Secretary of the Treasury, in consultation with the Secretary of Energy, shall replace it with a similar standard.**
 - Requirements:
 - Building Envelope:
 - Roof or roof products - ENERGY STAR.
 - **Proposed: Eliminate category as EPA is ending ENERGY STAR roof category.**
 - Exterior window, skylight or door - ENERGY STAR 6.0. (Credit for windows/skylights capped at \$200 and doors at \$500.)
 - **Proposed: Cap of \$200 for ENERGY STAR windows or \$600 for ENERGY STAR Most Efficient windows; and \$500 for ENERGY STAR doors, with limit of \$250 per door.**
 - Prescriptive criteria IECC 2009 for everything else.
 - **Proposed: IECC 2015. Product category cap raised to \$600.**
 - Qualified Energy Property:
 - Central air conditioner: Highest efficiency tier from CEE in effect 1.1.2009. Product category cap of \$300.

- ***Proposed: Highest CEE Tier in effect at date of enactment. (Currently SEER 18/EER 13 for Split Central AC and Split Air Source Heat Pumps; SEER 16/EER 12 for Packaged Central AC and Packaged Air Source Heat Pumps). Product category cap increased to \$600.***
- Furnace or boiler (natural gas, propane or oil): Annual fuel utilization efficiency rate of 95 or higher. Product category cap of \$150. Additionally, advanced main air circulating fans using no more than 2 percent of a furnace's total energy qualifies for a \$50 credit.
 - ***Proposed: AFUE equal to or greater than 97 percent for furnaces and 95 percent for boilers. Product category cap raised to \$300 for furnaces and \$600 for boilers. Additional \$300 furnace incentive available if converting from an existing non-condensing furnace to a condensing furnace. Fans provision removed.***
- Electric heat pumps: Energy factor of at least 2.0 for DOE test procedure or highest efficiency tier from CEE in effect 1.1.2009. Product category cap of \$300.
 - ***Proposed: Highest CEE Tier in effect at date of enactment. (Currently SEER 18/EER 13 and HSPF 10.0 for Split Air Source Heat Pumps; SEER 16/EER 12 and HSPF 8.2 for Packaged Air Source Heat Pumps). Product category cap increased to \$600.***
- Water heater: Natural gas, propane or oil - Energy factor of at least 0.82 or thermal efficiency of at least 90 percent. (Electric heat pump water heaters with energy factor of at least 2.0 qualify). Product category cap of \$300.
 - ***Proposed: Gas, propane or oil storage heaters – medium draw UEF equal to or greater than UEF 0.78; high draw UEF equal to or greater than 0.80. Gas, propane or oil tankless heaters UEF greater than or equal to 0.87 or TE greater than or equal to 0.90. Electric heat pump water heaters – UEF equal to or greater than 2.7 through 2020 and UEF equal to or greater than 2.8 beyond 2020. Product category cap raised to \$400, with an additional \$200 to mitigate installation expenses if switching to heat pump.***
- Biomass stove - Thermal efficiency of at least 75 percent. Product category cap of \$300.
 - ***Proposed: Thermal efficiency of at least 73 percent higher heating value through 2020 – and 75 percent higher heating value after 2020 – as reported by the EPA on the "List of EPA Certified Wood Stoves" or "List of EPA Certified Hydronic Heaters" or "List of EPA Certified Forced-Air Furnaces." Product category incentive cap raised to \$400.***